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Product carbon footprinting - PCF

A review of voluntary standards and schemes that estimate and label the GHG emissions "embedded" in consumer goods and services

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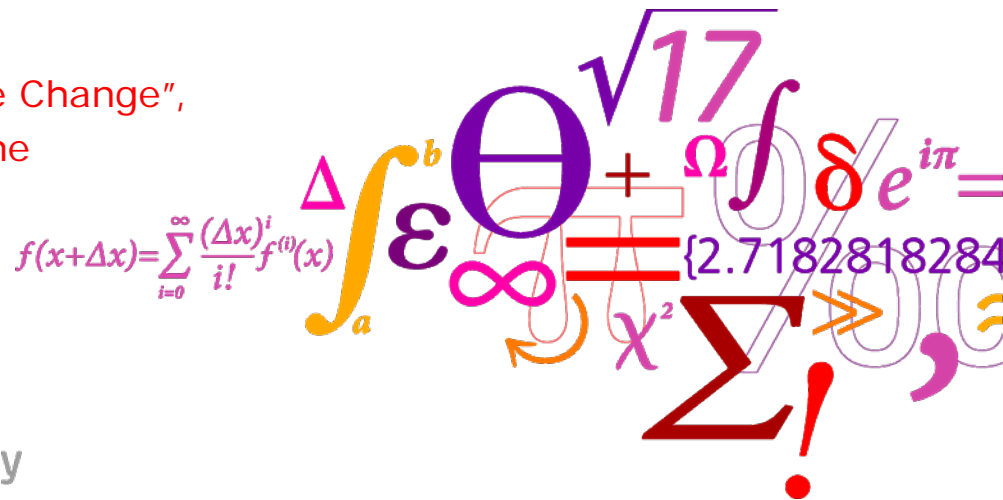
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Product carbon footprinting - PCF

A review of voluntary standards and schemes that estimate and label the GHG emissions “embedded” in consumer goods and services

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 OECD Conference Centre, Paris 9 – 10 June



What is a product carbon footprint?

- Information about the total amount of GHGs emitted during the life cycle of a good or service
- Grams CO₂-eq. per unit of product
- Display of this information on packaging and websites – with other CC information
- Different from measurement of emissions “at source”
- Different from corporate and project level assessments

<p>working with the Carbon Trust</p>	<p>The carbon footprint of this product is 850g per wash and we have committed to reduce this</p>
	<p>By comparison the carbon footprint of non-biological washing liquid is 600g per wash</p>
	<p>Help to reduce this footprint. Washing at 30°C rather than 40°C saves 160g CO₂ per wash</p>

Life cycle analysis

- Dominant method for calculating the sum of GHG emissions from activities along the entire life cycle of a product
- From “Cradle-to-grave” or “Farm-to-fork” or “Field-to-Wheel”

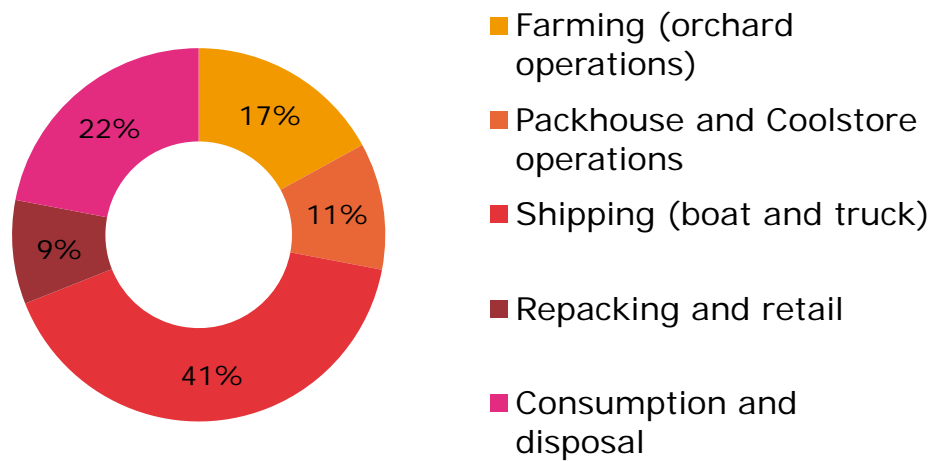


Source: www.zespri.com

- PCF activities engages all value chain actors – in terms of data provision and GHG reduction efforts

The carbon footprint of a New Zealand kiwi fruit eaten in the 16^{ième} arrondissement)

Share of total GHG emissions



Data source: www.zespri.com

Total footprint: 1.74 kg CO₂ Eq. per 1 kg of fruit

No generally accepted methodology: the quality of calculations differs greatly and there is ample scope for manipulation

Consumer perceptions

- Do not think that manufacturers and retailers are genuinely committed to climate change mitigation
- Want more information about the climate impact of products, but do not trust businesses to report such information accurately.
- Would probably prefer carbon labelled products (and businesses) over comparable ones
- But climate concerns are unlikely to dominate buying decisions, relative to price and quality factors

What can PCF be used for?

- **Help prioritise GHG reduction efforts along the entire supply chain**
 - E.g. Zespri Kiwifruit is focusing reduction efforts at the orchard, packhouse, coolstore and transport stages
- **Compare footprints of “similar” products delivered by different supply chains, to inform consumer choice (and sourcing)**
 - Broccoli imported to Sweden from Ecuador have a lower PCF than those imported from Spain, due to higher carbon efficiency of production and transportation
- **Compare the footprint of “similar” products with different attributes**
 - The footprint of a 330 ml can of Coke is half the size of 330 ml delivered in a glass bottle ([Coca cola PCFs](#))

(Continued)

- **Basis for designating products as “carbon neutral” through off-setting what emissions cannot be reduced**
 - E.g. the “Stop Climate Change” scheme in Germany
- **Help consumers reduce their “personal” carbon footprint**
 - “% of daily allowance”
- **Help demonstrate corporate commitment to CC mitigation (CSR)**
 - to customers (product differentiation, green marketing)
 - to (institutional) investors
 - to lawmakers (threatening to introduce harsh regulatory measures)

Emerging PCF schemes and standards

- Private organisations performing the calculation and display of carbon footprint information for products
- Scheme operators
 - Consultants and environmental NGOs (8 schemes)
 - Retailers and branded manufacturers (user operated, proprietary)
- 12 schemes worldwide, have “footprinted” > 3000 products
- First schemes appeared in 2007

PCF schemes – spread and coverage

- **Small number of products footprinted to date**
 - Between 1 and 70 products
 - Carbon Labelling Company: 2800 products since October 2008
 - Scheme users footprint selected products ('pilot' or 'show case')
- **Mostly food and drinks, but varied product coverage**
 - Bananas, orange juice, carpets, bank accounts, cell phones
- **Country coverage:** Canada, France, Germany, Switzerland, United Kingdom, United States (Japan, South Korea, Sweden, Thailand)

PCF schemes – standards and scope

- **Use of publicised standards**
 - 7 out of 12 schemes rely on published methodologies, but the quality and completeness of this documentation vary greatly
 - Most “complete” standard is the PAS 2050 (used by 2 schemes)
- **Scope of product GHG assessments**
 - Most involve “full” life cycle analysis, but precise boundary of the GHG calculation is often not clearly specified
 - No discrimination against products transported over long distances
- **→ Meaningful comparison of PCFs across schemes is not possible**

PCF Schemes – kind of certification

- **Additional climate-change criteria**
 - Commitment to reducing PCF over specified period (5 schemes)
 - Incentives or pressures to reduce PCF (2 schemes)
 - Commitment to reducing corporate-level emissions (3 schemes)
 - Carbon neutrality through the purchase of carbon credits (2 schemes)

PCF Schemes – conformity assessment

- All operators certify products to their “own” standard (disincentive to tightening the standard)
- Few schemes live up to consumers’ preference for 3rd party verification of PCFs (and other climate claims)
 - Independent, 3rd party verification of the PCFs (4 schemes)
 - Verification by scheme operator (6 schemes)
 - Self-verification by scheme user (3 proprietary schemes)
- A general lack of clarity and transparency in this area

PCF Schemes - display of carbon information

Actual value



Claim



Concluding observations

- Rising number of schemes and labelled products, but still at a very small scale. No clear trend.
- Little involvement of national governments and international organisations
- Great diversity in PCF approaches, but this is normal when standards emerge in a new area
- PCF does not appear to create market access barriers for producers in developing or distant countries
- But cost and capacity issues may disadvantage developing countries if and when PCF is adopted on a wider scale

Issues for research and policy

- **Research**

- How might PCF, if scaled up, contribute to CC mitigation in non-energy intensive sectors? What would be the trade and market access issues? Would it support or contradict other (regulatory) measures?
- What are the costs of conformity and certification?
- How is verification carried out in practice? What systems are “best”?
- How can the rigour and cost-effectiveness of LCAs be improved upon?

- **Policy**

- Support international standards development?
- Introduce mandatory carbon labelling?
- Improve capacity to carry out complex GHG assessments for products?